

IN THE CLAIMS:

1. (ORIGINAL) A method of delivering a packet from a first device in a first piconet of a scatternet to a destination device in a second piconet of the scatternet comprising: creating a direct radio communications link between the first device and the destination device; and transmitting the packet via the direct radio communications link.
2. (ORIGINAL) A method as claimed in claim 1, wherein the destination device is joined to the first piconet.
3. (CURRENTLY AMENDED) A method as claimed in claim 1 ~~or 2~~, wherein the step of creating a direct radio communications link creates a third piconet between the first piconet and the second piconet.
4. (ORIGINAL) A method as claimed in claim 3, wherein the first device operates as Master of the third piconet.
5. (CURRENTLY AMENDED) A method as claimed in claim 1, ~~2, 3 or 4~~ wherein the scatternet has a topology defined at initiation of the scatternet and creating the direct radio communications link adjusts the topology of the scatternet.
6. (ORIGINAL) A method as claimed in claim 4, wherein the direct radio communications link creates a short-circuit in the network topology.
7. (CURRENTLY AMENDED) A method as claimed in ~~any preceding~~ claim 1, wherein a piconet is a star-topology low power radio frequency network comprising a Master as a central node and one or more Slaves as dependent nodes, each of which has a radio communications link to the Master, and a scatternet is a distributed low power radio frequency network comprising a plurality of piconets that are interconnected by radio communication links.
8. (CURRENTLY AMENDED) A method as claimed in ~~any preceding~~ claim 1, wherein the first device and/or the destination device are mobile.

9. (CURRENTLY AMENDED) A method as claimed in ~~any preceding~~ claim 1, further comprising:

determining whether the creation of a direct radio communications link between the first device and the destination device is possible.

10. (ORIGINAL) A method as claimed in claim 9, wherein the packet comprises an address of the destination device and the step of determining uses the identity of the destination device.

11. (ORIGINAL) A method as claimed in claim 10, wherein the step of determining comprises determining if the destination device is within radio communication range of the first device.

12. (ORIGINAL) A method as claimed in claim 9, wherein the first device maintains a list of devices within radio communication range.

13. (ORIGINAL) A method as claimed in claim 12, wherein the list comprises, for each device within communication range, an address and a clock offset.

14. (CURRENTLY AMENDED) A method as claimed in claim 12 ~~or 13~~, wherein the list is maintained using the Bluetooth Inquiry procedure.

15. (CURRENTLY AMENDED) A method as claimed in claim 12, ~~13 or 14~~, wherein the step of determining comprises the first device determining whether the destination device is included in the list.

16. (ORIGINAL) A method as claimed in claim 15, wherein the comparison occurs within the Bluetooth Link layer.

17. (CURRENTLY AMENDED) A method as claimed in ~~any preceding~~ claim 1, wherein the direct radio communications link is temporary.

18. (ORIGINAL) A method as claimed in claim 17, wherein the direct radio communications link is released after a predetermined period of inactivity.

19. (CURRENTLY AMENDED) A method as claimed in ~~any preceding~~ claim 1, wherein the packet is a routing request.

20. (ORIGINAL) A method of delivering a packet from a first device in a first star-topology sub-network of a distributed low power radio frequency network to a destination device in a second star-topology sub-network of the distributed network comprising:

creating a direct low power radio frequency communications link between the first device and the destination device; and

transmitting the packet via the direct low power radio frequency communications link.

21. (CURRENTLY AMENDED) A carrier embodying a computer program which when loaded into a processor enables a method as claimed in ~~any one of claims 1 to 20~~.

22. (ORIGINAL) A device for participating in a first piconet of a scatternet and for delivering a packet to a destination device in a second piconet of the scatternet comprising:

means for creating a new direct radio communications link to the destination device while maintaining an existing direct radio communications link within the first piconet; and

a radio transmitter for transmitting the packet via the new direct communications link.

23. (ORIGINAL) A method of delivering a packet from a first device in a first piconet of a scatternet to a destination device in a second piconet of the scatternet comprising:

receiving the packet at the first device;

determining whether the creation of a direct radio communications link between the first device and the destination device is possible; and

if it is not possible, forwarding the packet within the scatternet.

24. (ORIGINAL) A method as claimed in claim 23, further comprising adding an address of the first device to the packet before forwarding it.

25. (CURRENTLY AMENDED) A method as claimed in claim 23 ~~or 24~~, wherein the received packet is transferred from a network layer to a link layer and, if possible, the link layer creates a direct radio communications link with the destination device and, if not possible, the link layer forwards the received packet.

26. (CURRENTLY AMENDED) A method as claimed in claim 23 ~~or 24~~, wherein the received packet is buffered in a network layer and a notification comprising the address

of the destination device is transferred to a link layer and, if possible, the link layer creates a direct radio communications link with the destination device and, if not possible, replies to the network layer which transfers the received packet to the link layer for forwarding.

27. (ORIGINAL) A method as claimed in claim 23, wherein the method further comprises, if the creation of a direct radio communications link between the first device and the destination device is possible, creating a direct radio communications link between the first device and the destination device.

28. (ORIGINAL) A method as claimed in claim 23, wherein the received packet is a route request packet and the method further comprises, if the creation of a direct radio communications link between the first device and the destination device is possible, transmitting a reply packet to a source of the received route request packet.

29. (ORIGINAL) A method of determining a route from a source device in a first piconet of a scatternet to a destination device in a second piconet of that scatternet comprising, before generating a routing request, determining, at the source device, whether the creation of a direct radio communications link between the source device and the destination device is possible; and if it is not possible, generating, at the source device, a routing request for forwarding within the scatternet.

30. (ORIGINAL) A method as claimed in claim 29, wherein the method further comprises, if the creation of a direct radio communications link between the first device and the destination device is possible, creating a direct radio communications link between the first device and the destination device.

31. (ORIGINAL) A method of delivering a packet from a first device in a first piconet of a scatternet to a destination device in a second piconet of that scatternet comprising: creating a third piconet between the first piconet and the second piconet; and transmitting the packet via the third piconet.

32. (ORIGINAL) A method as claimed in claim 31, wherein the first device operates as Master of the third piconet.

33. (CURRENTLY AMENDED) A method as claimed in claim 31 ~~or 32~~, wherein the step of creating a third piconet comprises creating a direct radio communications link between the first device and the destination device.

34. (CURRENTLY AMENDED) A method as claimed in claim 31, ~~32 or 33~~ wherein the scatternet has a topology defined at initiation of the scatternet and creating a third piconet ~~a~~adjusts the topology of the scatternet.

35. (ORIGINAL) A method as claimed in claim 31, wherein the third piconet creates a short-circuit in the network topology.

36. (CURRENTLY AMENDED) A method as claimed in ~~any one of~~ claims 31 ~~to 35~~, wherein a piconet is a star-topology low power radio frequency network comprising a Master as a central node and one or more Slaves as dependent nodes, each of which has a radio communications link to the Master, and a scatternet is a distributed low power radio frequency network comprising a plurality of piconets that are interconnected by radio communication links.